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### (54) Document transaction apparatus

Automat für Transaktionen mit Dokumenten

Appareil pour transactions avec documents

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**US-A- 4 405 856 US-A- 4 743 743**

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## Description

[0001] This invention relates to transaction apparatus of the kind suitable for processing documents such as, for example, cheques and bills for payment.

[0002] The processing by financial institutions, such as banks, of financial documents such as cheques to be deposited and bills to be paid is a costly and time consuming operation, and can often involve a customer wishing to perform a financial transaction, such as depositing a cheque or paying a bill, in a long waiting time to receive the attention of a bank teller to perform the transaction. Various suggestions have been made to automate these functions.

[0003] For example, UK Patent Application No. 2 238 415 discloses a financial self-service terminal which can accept cheques or other documents for effecting financial transactions. Data is printed on the document, and an image of the printed document is captured and displayed to the user for approval. At the end of the transaction, a transaction printer prints a ticket providing a record of the transaction. However, after the transaction has been completed, the customer may lack confidence that the document has been correctly identified and processed. US-A- 4743 743 discloses a transaction terminal where in a deposit mode, the user selects whether funds are to be transferred to another account or to his own account prior to depositing a cheque or bill. If funds are to be transferred to another account, the user is requested to enter the account details of the payee via the keyboard. After the input of this information has been received, processing of the deposited cheque or bill is carried out and a receipt for the transaction bearing information read from the cheque or bill is issued to the user. DE-A-2312984 discloses a transaction terminal which provides a receipt on which the customer's signature and possibly other data which is read from the customers ID card may be printed, while US-A-2930296 discloses a deposit terminal where a receipt bearing a photographic image of the article deposited is issued to the customer.

[0004] It is an object of the present invention to provide a transaction apparatus for processing documents wherein the user of the apparatus can have greater confidence that a document has been correctly identified and processed.

[0005] Therefore, according to the present invention, there is provided a transaction apparatus comprising document input means adapted to receive a transaction document to be processed; card reader means for reading user identification data from a user presented card; image lift means for generating image data from the transaction document and storing said image data in memory means; and receipt printing means for printing transaction information on a receipt slip and delivering the receipt slip to the user, characterized by document identification means for automatically identifying the type of document being processed; document definition

means for defining a plurality of zones within the document and the properties of data contained within the defined zones; image processing means for processing image data of the document in accordance with the properties of the data contained within the defined zones of the document and for causing the receipt printing means to print one or more defined zones of the document on the receipt slip; and funds transfer processing means for automatically debiting or crediting the user's account in accordance with data contained within predetermined defined zones of the document, prior to issuing the receipt slip to the user.

[0006] It will be appreciated that apparatus according to the invention provides a receipt slip bearing an image of at least a portion of a document being processed by the apparatus. This enables the customer's confidence to be maintained that the document has been correctly identified and processed by the apparatus.

[0007] One embodiment of the present invention will now be described by way of example, with reference to the accompanying drawings, in which:-

Fig. 1 is a perspective view of a self-service document processing terminal incorporating the present invention;

Fig. 2 is a simplified diagram illustrating the passage of a document through the terminal shown in Fig. 1;

Fig. 3 is a block diagram showing the interconnection of components employed in the terminal of Fig. 1;

Fig. 4 shows a cheque capable of being processed by the terminal of Fig. 1;

Fig. 5 is a flowchart illustrating the selection of a transaction type by a customer operating the terminal of Fig. 1;

Fig. 6 is a flowchart illustrating the processing of a cheque by the terminal of Fig. 1;

Fig. 7 shows a receipt slip issued by the terminal of Fig. 1; and

Fig. 8 is a flowchart illustrating the operation for printing a receipt slip.

[0008] Referring first to Fig. 1, there is shown a perspective view of a self-service document processing terminal 10 incorporating the present invention. The terminal 10 is self-service device adapted for operation by a customer for the purpose of paying bills, depositing cheques or printing a statement of the customer's account. It will be appreciated that the terminal 10 is connected in operation to a data processing circuitry (not shown) suitable for electronic funds transfer, whereby the customer's account can be automatically debited, credited or read out.

[0009] The terminal 10 includes a slot 12 for entry of the customer's banking card, a keyboard 14 for entry of information and control functions, a slot 16 for receiving a bill to be paid or a cheque to be deposited and for

delivering a statement to a customer, a slot 17 for issuing a receipt slip and a display screen 18.

**[0010]** Referring now to Fig. 2, there is shown a diagram illustrating in simplified schematic form the movement of a document 30 through the terminal 10 (Fig. 1). The document 30, after insertion in the document entry slot 16 (Fig. 1) is moved by a document transport system 32 along a feed path 34 in the direction of the arrow 36. The document 30 is fed past an image lift device 38 which senses the document 30 and provides digital signals representative of the sensed areas (pixels) in known manner, such digital signals being supplied over a line 40 to a processing system 42. The document 30 is then fed further along the feed path to a wait station 44 where the document is held while processing takes place in the processing system 42. Following such processing the document 30 is fed via a selected diverting flap 46, 48 or 50 to a respective sorting pocket 52, 54 or 56.

**[0011]** Referring now to Fig. 3, the processing system 42 will be briefly described. As shown in Fig. 3, the image lift device 38 is connected over the line 40 to an image memory 70 which may be RAM memory. It should be understood that the image lift device 38 is adapted to provide both a binary image (black or white pixels) used for subsequent processing and a grey scale digital image used to provide a visual display of the documents on the display 18.

**[0012]** The image memory 70 is connected to a bus 72 to which are connected a CPU (central processing unit) 73, memory means 74, which may be a RAM and/or disk storage, the display 18, the keyboard 14, a statement printer 75, an endorser printer 76, a receipt printer 77, a journal printer 78 an encoder 79 and a card reader 13 for reading a customer's bank card inserted in the slot 12 (Fig. 1).

**[0013]** Also connected to the bus 72 are further respective memory means containing an identification feature file 80, a document definition file 82, a library of image processing programs (referred to herein as utilities) 84 and control software 86. The identification feature file 80 contains a document description for each type of document. Each document description, referred to herein as a document feature model, includes a representation of graphical features on the document, specified by their locations and measurements on the document. Examples of graphical features are horizontal lines, vertical lines and boxes. Associated with each document feature model is a document name, identifying the document type.

**[0014]** The document definition file 82 contains a list of document names, each document name being associated with a document description including a list of zones on the document, together with parameters defining the properties of data contained within the respective zones. The control software 86 interprets these parameters to select an appropriate image processing utility from the library of image processing utilities 84. Also

associated with each document name is an identification of regions of the document to be printed on the receipt slip for a transaction involving the document.

**[0015]** The image processing utilities contained in the library of image processing utilities 84 are functions which implement a particular method or technique for processing image data and making explicit the information contained within the image.

**[0016]** The terminal 10 is adapted to process more than one class of documents. One class of document is a cheque. Referring now to Fig. 4, there is shown a typical cheque 100 capable of being accepted and processed by the terminal 10. The cheque 100 is a printed form containing printed information thereon, and graphical features such as horizontal lines 102, 104, 106, 108, 110, vertical lines 112, 114 and sloping lines 116, 118. The printed information includes a printed code line disposed in a code line zone 120. When inserted into the terminal 10, the cheque 100 also contains handwritten information, including the date written in date zone 122, the payee's name written in a payee name zone 124, a handwritten amount written in words, a courtesy amount written in figures in a courtesy amount zone 126, and a signature, written in a signature zone 128. Other zones on the cheque 100 are blank when the cheque is inserted in the terminal 10 and may be printed by the printer 76 and/or the encoder 79 during processing of the document in the terminal 10. These zones include an encoding zone 130 and an endorsement zone 132. Also shown in Fig. 4 is a region 140 which will be printed on the receipt slip for the transaction.

**[0017]** It will be appreciated that cheques emanating from a large number of different banks may be processed by the terminal 10. Although such cheques all contain identical types of information, such as payee's name, date, amount, bank code and signature, the actual location of this information may be different for the cheques of different banks.

**[0018]** A typical manner in which the terminal 10 is operated by a customer will now be described. Referring to Fig. 5 which shows a transaction flowchart 200, operation is commenced by the customer inserting his bank card in the slot 12 (Fig. 1) as shown in block 202. The customer then enters his PIN (personal identification number) via the keyboard 14 (block 204), to verify authorized use of the bank card. The customer may select a cheque deposit transaction (block 206), a bill payment transaction (block 210) or a statement print transaction (block 212). The statement print transaction, which causes the terminal 10 to print out a statement of the customer's account is not pertinent to the present invention, and will not be discussed further herein.

**[0019]** Referring now to Fig. 6, there is shown a flowchart 230 illustrating the deposit function operation of the terminal 10 for a typical cheque deposit transaction (block 232). The customer inserts the cheque document into the document entry slot 16 (Fig. 1) (block 234). The image lift device 38 (Figs. 2 and 3) then lifts the docu-

ment image (block 236) and stores the image in the image memory 70 (Fig. 3) (block 238). The document is then identified (block 240), that is, a procedure is carried out which ascertains the particular cheque type, dependent on which bank or financial institution issued the cheque.

**[0020]** Briefly, this procedure involves extracting graphical features, such as straight lines (and, possibly, boxes), and arranging these extracted graphical features in a feature specifying their locations to provide a graphical feature description constituting a document feature model. This document feature model is then compared with document feature models extracted from the identification feature file 80 (Fig. 3) to identify the cheque and provide a document name for the cheque document. The document image is then displayed on the display screen 18 (block 242) to reassure the customer that the transaction is proceeding correctly, and to allow the customer to view the displayed document. This display step is optional and may be omitted in some applications. Data is then read from the document image (block 244), the location of the text which is read, and the type of reading utility being specified in the document definition file 82 (Fig. 3) under the relevant document name. The customer then enters the cheque amount on the keyboard 14, and the cheque amount is verified (block 248) by comparing the keyed-in amount with the courtesy amount read from zone 126 (Fig. 4) during the read data step of block 244. The cheque amount is then magnetically encoded on the cheque in zone 130 (Fig. 4) (block 250), and the cheque is endorsed by printing thereon (block 252) in the endorsement zone 132, thereby invalidating the cheque to prevent it being used in a subsequent transaction. As shown in block 254 a funds transfer operation is then effected, wherein the value of the cheque is transferred from the payer's account, the account number of which was read from the code line zone 120 (Fig. 4), to the payee's account, the account number of which was read from the bank card inserted in the slot 12 at the commencement of terminal operation by the customer. Finally (block 256) the cheque is sent to an appropriate pocket 52-56 (Fig. 2).

**[0021]** Referring now to Fig. 7, there is shown a typical receipt slip 300 issued from the slot 17 (Fig. 1) as a record of a cheque deposit transaction. The receipt slip 300 contains printed details 302 of the transaction, including the name and account number of the account into which the cheque is being paid, a printed record 304 of the code line 120 (Fig. 4) on the cheque 100 and an image region 306 reproducing the image region 140 (Fig. 4) on the cheque 100 and including the courtesy amount zone 126 (Fig. 4) and the signature zone 128 (Fig. 4). The receipt may include additional information such as a conventional "thank you" line 308.

**[0022]** Referring now to Fig. 8, the operation of the system for printing the receipt slip 300 (Fig. 7) will now be described, with reference to the flowchart 400. The

operation starts as shown in block 402 and proceeds to block 404 where the information 302, 304, 308 to be printed on the receipt slip in character format is assembled and stored in the memory means 74. The account name to be printed in the first line of the transaction details 302, is derived from the customer's card read by the card reader 13 (Fig. 3). As an alternative, the account name may be derived by reading the payee name from the zone 124 in the document 100 (Fig. 4). The second line, wherein the deposited amount is printed, is derived from reading the courtesy amount zone 126 from the stored document image. Alternatively, the deposited amount may be derived from the keyboard entry step (block 246, Fig. 6). The account number information is derived from the card reader 13 reading the customer's card, and the date information is derived from a system calendar (not shown) conventionally provided in the processing system 42. Although not shown in Fig. 7, the time at which the transaction took place may also be printed on the receipt slip 300. The code line information 304 is derived by reading the code line zone 120 from the stored document image.

**[0023]** Next, as shown in block 406, the images of the signature and amount fields are extracted from the document image stored in the image memory 70, and stored in the memory means 74. Next, this stored image is converted to printer format and stored again in the memory means 74 (block 408). This step may involve scaling, for example size reduction or enlargement, of the image to provide a region which is a suitable size for reproduction on the receipt slip 300.

**[0024]** Then, as shown at block 410, the stored character information and converted image information are sent to the receipt printer 77 which is thereby conditioned to print the receipt slip 300 (block 412) as shown in Fig. 7. This ends the receipt slip printing operation (block 414).

**[0025]** According to the preferred embodiment described hereinabove, an image 306 of only the amount and signature zones on the deposited cheque is printed on the receipt slip 300. However, it will be appreciated that other zones of the cheque could be printed if desired. Also an image of the entire deposited cheque could be printed on the receipt slip. Furthermore, documents other than cheques, such as bills for payment, for example, which are being processed by the terminal 10, can have appropriate zones thereof extracted from the stored document image and printed on the receipt slip for the transaction.

**[0026]** In a further modification the image region 140 is also printed by the journal printer 78 to serve as an additional security record of the transaction on the journal record (not shown).

**[0027]** In yet another modification, where two or more cheques or other documents are deposited as part of a single transaction, then images derived from each of the cheques or other documents may be printed on a single receipt slip.

## Claims

## 1. Transaction apparatus comprising

document input means adapted to receive a transaction document (30, 100) to be processed;

card reader means (13) for reading user identification data from a user presented card; image lift means (38) for generating image data from the transaction document (30, 100) and storing said image data in memory means; and

receipt printing means (77) for printing transaction information on a receipt slip (300) and delivering the receipt slip (300) to a user, characterized by

document identification means (80, 82) for automatically identifying the type of document (30, 100) being processed;

document definition means (80) for defining zones (120, 122, 124, 126, 128, 130, 132, 140) within the document (30, 100) and the properties of data contained within the defined zones;

image processing means (84, 86) for processing image data of the document in accordance with the properties of the data contained within the defined zones of the document (30, 100) and for causing the receipt printing means (77) to print one or more defined zones (140) of the document (100) on the receipt slip (300); and

funds transfer processing means for automatically debiting or crediting the customer's account in accordance with the data contained within predetermined defined zones (120, 126) of the document, prior to issuing the receipt slip (300) to the user.

## 2. Transaction apparatus according to claim 1, characterized in that the document identification means (80) includes

graphical feature extraction means for extracting graphical features from the document image;

document feature model generation means for arranging the extracted graphical features in a location specifying feature to generate a document feature model of the document; and document feature model comparison means for comparing the generated document feature model with document feature models contained in an identification feature file (80).

## 3. Transaction apparatus according to claim 2, characterized in that the identification feature file (80) includes a plurality of document feature models arranged in association with respective document

names.

## 4. Transaction apparatus according to claim 1, characterized in that the zones within the document defined by the document definition means (80) includes a code line zone (120), a signature zone (128), a courtesy amount zone (126).

## 5. Transaction apparatus according to claim 4, characterized in the user's account is automatically debited or credited by the funds transfer processing means in accordance with the payee account number derived from the code line zone (120), the value of the transaction document derived from courtesy amount zone (126) and the payer account number derived from the user identification data read from the user presented card.

## 6. Transaction apparatus according to claim 1, characterized in that image processing means (84, 86) includes plurality of image processing utilities and interpretation means for selecting an appropriate image processing utility on the basis of the properties of the data contained within the defined zones of the document (30, 100).

## 7. Transaction apparatus according to claim 1, characterized in that the receipt printing means (77) is further adapted to print character information (302, 304, 308) on said receipt slip (300), the character information including information derived from reading the user's card

## 8. Transaction apparatus according to claim 7, characterized in that said character information includes information derived from said document (30, 100).

## 9. Transaction apparatus according to any one of the preceding claims, characterized in that images derived from a plurality of transaction documents (100) are printed on said receipt slip (300).

## Patentansprüche

## 1. Transaktionsapparat, enthaltend:

eine Dokumenteneingabeeinrichtung, die zum Empfang eines zu verarbeitenden Transaktionsdokumentes (30, 100) ausgelegt ist; eine Kartenleseereinrichtung (13) zum Lesen von Nutzerkenndaten aus einer vom Nutzer vorgelegten Karte; eine Bildnahmeeinrichtung (38) zum Erzeugen von Bilddaten aus dem Transaktionsdokument (30, 100) und zum Speichern dieser Bilddaten in einer Speichereinrichtung, und eine Quittungsdruckeinrichtung (77) zum Druck-

ken von Transaktionsinformation auf einen Quittungszettel (300) und Ausgeben des Quittungszettels (300) an einen Nutzer,

gekennzeichnet durch:

eine Dokumenten-Identifizierungseinrichtung (80, 82) zum automatischen Identifizieren des Typs des verarbeiteten Dokumentes (30, 100);  
eine Dokumenten-Abgrenzungseinrichtung (80) zum Abgrenzen von Zonen (120, 122, 124, 126, 128, 130, 132, 140) innerhalb des Dokumentes (30, 100) und Definieren der Eigenschaften von Daten, die innerhalb der abgegrenzten Zonen enthalten sind;  
eine Bildverarbeitungseinrichtung (84, 86) zum Verarbeiten von Bilddaten des Dokumentes entsprechend den Eigenschaften der innerhalb der abgegrenzten Zonen des Dokumentes (30, 100) enthaltenen Daten und zum Veranlassen der Quittungsdruckeinrichtung (77), eine oder mehrere abgegrenzte Zonen (140) des Dokumentes (100) auf den Quittungszettel (300) zu drucken, und  
eine Geldtransfer-Verarbeitungseinrichtung zum automatischen Belasten oder Gutschreiben auf dem Konto des Kunden entsprechend den innerhalb vorbestimmter abgegrenzter Zonen (120, 126) des Dokumentes enthaltenen Daten, bevor der Quittungszettel (300) an den Nutzer ausgegeben wird.

2. Transaktionsapparat nach Anspruch 1, dadurch gekennzeichnet, daß die Dokumenten-Identifizierungseinrichtung (80) folgendes enthält:

eine Graphikmerkmal-Extraktionseinrichtung zum Herausgreifen graphischer Merkmale aus dem Dokumentenbild;  
eine Dokumentenmerkmalsmodell-Erzeugungseinrichtung zum Einordnen der herausgegriffenen graphischen Merkmale im Hinblick auf deren spezifizierte Orte, um ein Dokumentenmerkmalsmodell des Dokumentes zu erzeugen, und  
eine Dokumentenmerkmalsmodell-Vergleichseinrichtung zum Vergleichen des erzeugten Dokumentenmerkmalsmodells mit Dokumentenmerkmalsmodellen, die in einer Identifizierungsmerkmal-Datei (80) enthalten sind.

3. Transaktionsapparat nach Anspruch 2, dadurch gekennzeichnet, daß die Identifizierungsmerkmal-Datei (80) eine Vielzahl von Dokumentenmerkmalsmodellen enthält, die in Verknüpfung mit jeweiligen Dokumentennamen angeordnet sind.

4. Transaktionsapparat nach Anspruch 1, dadurch ge-

kennzeichnet, daß die von der Dokumenten-Abgrenzungseinrichtung (80) innerhalb des Dokumentes abgegrenzten Zonen eine Codezeilenzone (120), eine Unterschriftenzone (128) und eine Verbindlichkeitsbetragszone (126) enthalten.

5. Transaktionsapparat nach Anspruch 4, dadurch gekennzeichnet, daß auf dem Konto des Nutzers durch die Geldtransfer-Verarbeitungseinrichtung automatisch eine Belastung oder Gutschrift erfolgt entsprechend der aus der Codezeilenzone (120) abgeleiteten Kontonummer des Zahlungsempfängers, dem aus der Verbindlichkeitsbetragszone (126) abgeleiteten Wert des Transaktionsdokumentes und der Kontonummer des Einzahlers, die abgeleitet wird aus den Nutzeridentifizierungsdaten, die aus der vom Nutzer vorgelegten Karte gelesen werden.

6. Transaktionsapparat nach Anspruch 1, dadurch gekennzeichnet, daß die Bildverarbeitungseinrichtung (84, 86) eine Vielzahl von Bildverarbeitungs-Hilfsprogrammen und eine Interpretationseinrichtung enthält, um ein passendes Bildverarbeitungs-Hilfsprogramm auf der Grundlage der Eigenschaften der Daten auszuwählen, die innerhalb der abgegrenzten Zonen des Dokumentes (30, 100) enthalten sind.

7. Transaktionsapparat nach Anspruch 1, dadurch gekennzeichnet, daß die Quittungsdruckeinrichtung (77) ferner ausgelegt ist, um auf dem Quittungszettel (300) Zeicheninformation (302, 304, 308) zu drucken, die Information enthält, welche durch Lesen der Karte des Nutzers abgeleitet wurde.

8. Transaktionsapparat nach Anspruch 7, dadurch gekennzeichnet, daß die Zeicheninformation Information enthält, die aus dem Dokument (30, 100) abgeleitet wurde.

9. Transaktionsapparat nach einem der vorhergehenden Ansprüche, dadurch gekennzeichnet, daß Bilder, die aus einer Mehrzahl von Transaktionsdokumenten (100) abgeleitet sind, auf den Quittungszettel (300) gedruckt werden.

## Revelations

1. Un appareil à effectuer les transactions comprenant

un moyen d'introduction des documents adapté pour recevoir un document faisant l'objet d'une transaction (30, 100),  
un moyen lecteur de cartes (13) pour lire les données d'identification utilisateur à partir d'une carte présentée par un utilisateur; un

moyen de prise d'image (38) pour générer des données d'image à partir du document faisant l'objet d'une transaction (30, 100) et pour mémoriser lesdites données d'image dans un moyen mémoire; et

un moyen d'impression des reçus (77) pour imprimer les informations de transaction sur un bulletin de réception (300) et pour fournir le bulletin de réception (300) à un utilisateur,

caractérisé par

un moyen d'identification des documents (80, 82) pour identifier automatiquement le type de document (30, 100) traité;

un moyen de définition des documents (80) pour définir des zones (120, 122, 124, 126, 128, 130, 132, 140) au sein du document (30, 100) et les propriétés des données contenues au sein des zones définies;

un moyen de traitement des images (84, 86) pour traiter les données d'image du document conformément aux propriétés des données contenues au sein des zones définies du document (30, 100) et pour faire en sorte que le moyen d'impression des reçus (77) imprime une ou plusieurs zones définies (140) du document (100) sur le bulletin de réception (300); et un moyen de traitement des virements de fonds pour débiter ou créditer automatiquement le compte du client conformément aux données contenues au sein de zones définies prédéterminées (120, 126) du document, avant de délivrer le bulletin de réception (300) à l'utilisateur.

2. Un appareil à effectuer les transactions conformément à la revendication 1, caractérisé en ce que le moyen d'identification des documents (80) comporte

un moyen d'extraction des caractéristiques graphiques pour extraire les caractéristiques graphiques de l'image document.

un moyen de génération du modèle de caractéristiques du document pour arranger les caractéristiques graphiques extraites dans une caractéristique spécifiant l'emplacement pour générer un modèle de caractéristiques du document; et

un moyen de comparaison des modèles de caractéristiques du document pour comparer le modèle de caractéristiques du document généré aux modèles de caractéristiques du document contenus dans un fichier des caractéristiques d'identification (80)

3. Un appareil à effectuer les transactions conformément à la revendication 2, caractérisé en ce que le

fichier des caractéristiques d'identification (80) comporte une pluralité de modèles de caractéristiques du document arrangés en association avec des noms de documents respectifs.

4. Un appareil à effectuer les transactions conformément à la revendication 1, caractérisé en ce que les zones au sein du document définies par le moyen de définition des documents (80) comportent une zone ligne code (120), une zone signature (128), une zone montant en chiffres (126).

5. Un appareil à effectuer les transactions conformément à la revendication 4, caractérisé en ce que le compte de l'utilisateur est automatiquement débité ou crédité par le moyen de traitement des virements de fonds conformément au numéro de compte du bénéficiaire tiré de la zone ligne code (120), à la valeur du document faisant l'objet de la transaction tirée de la zone montant en chiffres (126) et au numéro de compte du tireur tiré des données d'identification de l'utilisateur lues à partir de la carte présentée par l'utilisateur.

6. Un appareil à effectuer les transactions conformément à la revendication 1, caractérisé en ce que le moyen de traitement des images (84, 86) comporte une pluralité de programmes utilitaires de traitement des images et un moyen d'interprétation pour sélectionner un programme utilitaire de traitement des images approprié sur la base des propriétés des données contenues au sein des zones définies du document (30, 100).

7. Un appareil à effectuer les transactions conformément à la revendication 1, caractérisé en ce que le moyen d'impression des reçus (77) est encore adapté pour imprimer les informations relatives aux caractères (302, 304, 308) sur ledit bulletin de réception (300), les informations relatives aux caractères comportant des informations tirées de la lecture de la carte de l'utilisateur.

8. Un appareil à effectuer les transactions conformément à la revendication 7, caractérisé en ce que lesdites informations relatives aux caractères comportent des informations tirées dudit document (30, 100).

9. Un appareil à effectuer les transactions conformément à l'une quelconque des revendications précédentes, caractérisé en ce que des images tirées d'une pluralité de documents faisant l'objet d'une transaction (100) sont imprimées sur ledit bulletin de réception (300).

FIG. 1

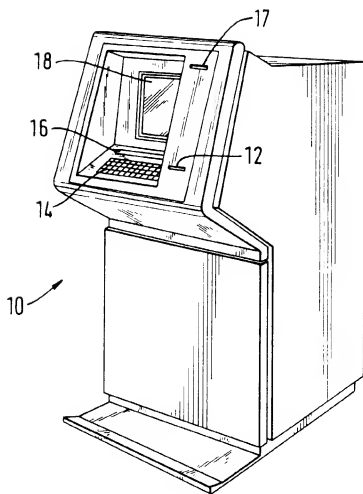




FIG. 2

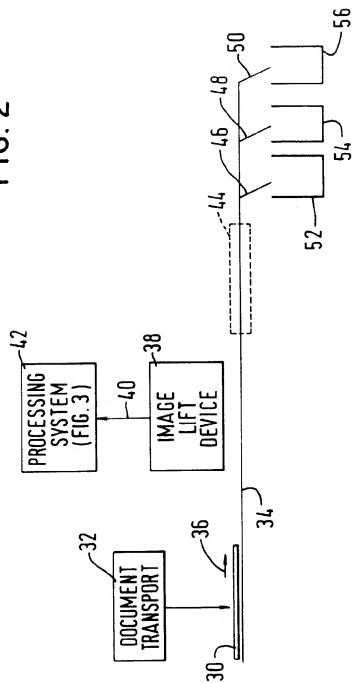


FIG. 3

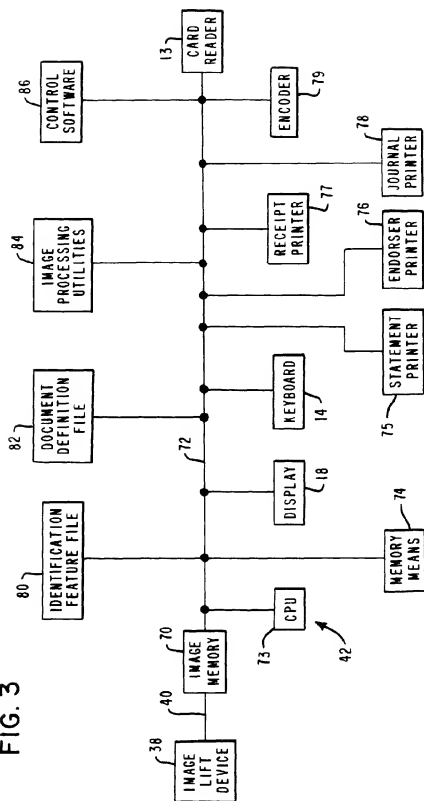


FIG. 4

THE NCR BANK  
OF SCOTLAND  
EDINBURGH NCR BRANCH  
NCR ROAD EDINBURGH

Date: January 1, 1993 88-19-44

Pay: Henry Brown 124

Ten pounds 50 pence only 106 116 118

£ 10-50 112 of order 125

MR JOHN SMITH 114

John Smith 128

10001788 88-1944 0040788216 130

100

FIG. 5

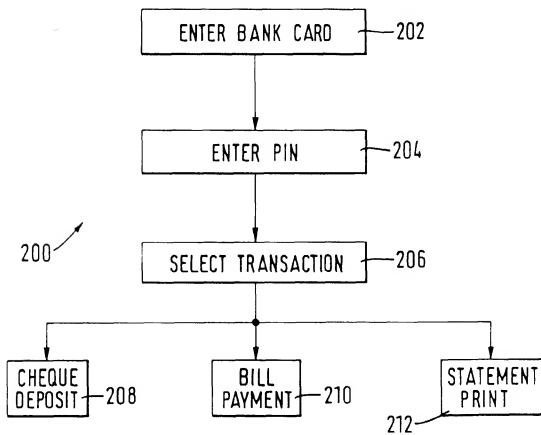


FIG. 6

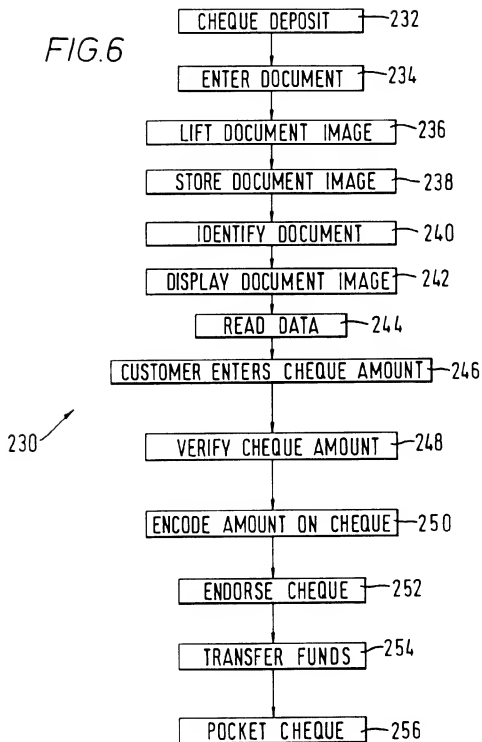


FIG. 7

302 → ACCOUNT:- HENRY BROWN  
THE AMOUNT YOU DEPOSITED IS: £10.50  
TO ACCOUNT NUMBER:- 00246810  
DATE:- FRIDAY 22 JANUARY 1993

304 → CHEQUE DETAILS:-  
CODELINE: 000178 88 1944 00407882

300 —

306 —

308 →

£ 10 - 50

MR JOHN SMITH

*John Smith*

THANK YOU - NCR BANK

FIG. 8

